

CLAIMS

- 1- A process for the preparation of aqueous suspensions of fluid mineral matter, which are able to be pumped and conveyed by the end user immediately after the
5 filtration stage, possibly followed by a compression, with the use of small quantities of dispersant, and allowing the control of the quantities of dispersant present in the filtrate, characterised in that it contains a filtration in two separate stages, possibly followed by a compression.
- 102- A process for the preparation of aqueous suspensions of mineral matter as claimed in claim 1, characterised in that the two separate stages of filtration consist of a first stage in which a pre-layer is formed using no dispersant agent, followed by a second stage continuous with the first in the presence of one or
15 more dispersant agents, during which the water of the pre-layer is replaced by the water of the second filtration stage containing one or more dispersant agents.
- 3- A process for the preparation of aqueous suspensions of mineral matter as claimed in one of claims 1 or 2, characterised in that the quantity of dispersant agent used in the second stage is between 0.01% and 10%, preferentially between
20 0.1% and 2% by dry weight of dispersant relative to the dry weight of mineral matter to be filtered.
- 4- A process for the preparation of aqueous suspensions of mineral matter as claimed in one of the claims 1 to 3, characterised in that the quantity of
25 dispersant agent present in the filtrate is controlled and limited by a continuous measurement of the electrical conductivity of the filtrate and in that the filtration stage is stopped as soon as the electrical conductivity of the filtrate increases.
- 5- A process for the preparation of aqueous suspensions of mineral matter as
30 claimed in one of the claims 1 to 4, characterised in that the mineral matter is chosen from among natural calcium carbonate, such as the various chalks, calcites, marbles, or again chosen from the synthetic calcium carbonates such as the precipitated calcium carbonates at various stages of crystallisation, or again from the mixed carbonates of magnesium and calcium such as the dolomites, or
35 from magnesium carbonate, zinc carbonate, lime, magnesia, barium sulphate such as barita, calcium sulphate, silica, the magnesio-silicates such as talc, wollastonite, clays and the alumino-silicates such as the kaolins, mica, metal or alkaline-earth oxides or hydroxides such as magnesium hydroxide, iron oxides, zinc oxides, titanium oxide, titanium dioxides in the anatase or rutile forms, and
40 mixtures of them, and preferentially chosen from natural calcium carbonate, synthetic calcium carbonate also called precipitated calcium carbonate, titanium dioxide in its anatase or rutile forms, kaolin, aluminium hydroxide, clays or mixtures of them.

55

- 6- An aqueous suspension of fluid mineral matter, which are able to be pumped and conveyed by the end user immediately after the filtration stage, possibly followed by a compression, characterised in that it contains 0.01% to 10%, preferentially 0.1% to 2% by dry weight of dispersant relative to the dry weight of mineral matter to be filtered, and in that it is obtained by the process as claimed in any of claims 1 to 5.
- 7- An aqueous suspension of mineral matter as claimed in claim 6, characterised in that the mineral matter is chosen from among natural calcium carbonate such as the various chalks, calcites, marbles, or again chosen from the synthetic calcium carbonates such as the calcium carbonates precipitated at different stages of crystallisation, or from the mixed carbonates of magnesium and calcium such as the dolomites, or from magnesium carbonate, zinc carbonate, lime, magnesia, barium sulphate such as barita, calcium sulphate, silica, the magnesio-silicates such as talc, wollastonite, clays and other alumino-silicates such as the kaolins, mica, metal or alkaline-earth oxides or hydroxides such as magnesium hydroxide, iron oxides, zinc oxide, titanium oxide, titanium dioxides in the anatase or rutile forms, and mixtures of them, and moreover mixtures of talc and calcium carbonate.
- 8- Use of the aqueous suspension as claimed in one of the claims 6 or 7 in the fields of paper, paint, water treatment, such as in the fields of purification muds, detergency, ceramics, cements or hydraulic binders, public works, inks and varnishes, gluing of textiles, and more particularly in the field of paper, ceramics, paint and water treatment.